REMARKS

Upon entry of the present amendment, claims 1-7 and 9-24 will remain pending in the above-identified application with claims 1-2, 9-12 and 18-24 standing ready for further action on the merits and claims 3-7 and 13-17 remaining withdrawn from consideration due to an earlier Restriction Requirement of the Examiner.

Claims 1, 9 and 12 have been amended, claim 8 has been cancelled, and new claims 18-24 have been added. The amendments made herein to the claims do not incorporate new matter into the application as originally filed. For example, the amendment to claim 1 is based on claim 8 (now cancelled). Claim 12 finds support at page 4, line 19 of the specification. New claims 18 and 19 are based on claims 1 and 2, respectively. New claims 20-23 are based on claims 8-11, respectively. New claim 24 is based on the disclosure at page 4, line 17 of the specification.

Accordingly, proper consideration of each of the pending claims (i.e., claims 1-2, 9-12 and 18-24) is respectfully requested at present, as is entry of the present amendment.

Claim Rejections under 35 USC § 103

Claims 1, 2 and 8-12 have been rejected under 35 USC § 103(a) as being unpatentable over Nozawa (US 6,677,087) or Mitsui (US 6,942,356).

Reconsideration and withdrawal of this rejection is requested based upon the following considerations.

Invention of Claims 1, 2 and 9-17

The Present Invention

The present invention is directed a halftone phase shift mask blank having a specific phase shifter film as recited in claim 1. More specifically, the film of the present invention comprises molybdenum and further at least one metal selected from the group consisting of tantalum, zirconium, chromium and tungsten. Namely, in the present invention, the film contains molybdenum and further contains one or more other metal(s). Further, in the present invention, an atomic ratio of the amount of molybdenum to the total amount of tantalum, zirconium, chromium and tungsten is between 100:1 to 2:1.

As described in the instant specification (see, for example, page 2, lines 2-26), according to the present invention, a halftone phase shift mask blank which can be easily produced and has resistance to chemicals is obtained. The present invention has advantages such as high in-plane uniformity and high resistance. The film containing both of molybdenum and the above-mentioned metal(s) contribute such advantages to the present invention. Such advantages are specifically described in the specification (see, Examples and Comparative Examples on pages 8-14 of the specification).

Distinction over the Cited References

Nozawa merely discloses a half-tone phase shift mask blank having a transparent substrate and a film. The single layered translucent film consists of a metal, silicon, and nitrogen and/or oxygen. Further, chromium, molybdenum, tantalum, titanium and tungsten are disclosed as metals of a low-transmission layer.

Mitsui merely discloses a half tone type phase shift mask blank having a substrate and a translucent phase shift thin film, The thin film is composed of metal, silicon and nitrogen. MoSiN, TaSiN, WSiN and TiSiN are disclosed as the material including metal, silicon and nitrogen.

However, each of the cited references (i.e. Nozawa and Mitsui) fails to disclose or suggest both of molybdenum and other metal(s), especially zirconium. Moreover, neither of the cited references fails to disclose or suggest that an atomic ratio of the amount of molybdenum to the total amount of tantalum, zirconium, chromium and tungsten is between 100:1 to 2:1.

Thus, a *prima facie* case of obviousness is not established based on the cited references since none of the cited references disclose or suggest such a feature of the present invention. Likewise, it follows that a person having ordinary skill in the art would not be motivated by any of the teachings of the cited references to arrive at the present invention.

Accordingly, the cited art does not provide any motivation to arrive at the instant invention as claimed, and moreover the instant invention possesses unexpected and advantageous properties not rendered obvious by the cited art.

Accordingly, the present invention (claims 1, 2 and 9-17) is not obvious over the cited references.

Invention of Claims 18-24

The Present Invention and the Cited References

As recited in claim 18, in the present invention, the metal of the metal silicide is zirconium.

However, as explained above, each of the cited references (i.e. Nozawa and Mitsui) fails to disclose or suggest the use of zirconium.

Accordingly, a *prima facie* case of obviousness is not established based on the cited references since none of the cited references disclose or suggest "zirconium" which is a feature of the present invention as recited in claim 18. Likewise, it follows that a person having ordinary skill in the art would not be motivated by any of the teachings of the cited references to arrive at the present invention.

Accordingly, the cited art does not provide any motivation to arrive at the instant invention as claimed, and thus the present invention (claims 18-24) is not obvious over the cited references.

CONCLUSION

Should there be any outstanding matters that need to be resolved in the present application, the Examiner is respectfully requested to contact Gerald M. Murphy, Jr. (Reg. No. 28,977) at the telephone number below, to conduct an interview in an effort to expedite prosecution in connection with the present application.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37 C.F.R. §§ 1.16 or 1.17; particularly, extension of time fees.

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Respectfully submitted,

By _____
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